

Appl. No. 09/901,526

Amdt. dated December 17, 2003

Reply to Office action of October 1, 2003

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 12-23 remain in the application. Claims 22 and 23 have been amended.

The claims have once more been rejected as being obvious over the reference Thakur under 35 U.S.C. § 103. We respectfully disagree and request that the Examiner consider the following arguments.

The Examiner's primary argument in support of the rejection is that, while the formation of isolated grains with a clear spacing in between is not specifically shown by Thakur, the process parameters found in the reference resemble those of the instant application and, accordingly, the reference process arrives at the same structure.

The conclusion reached by the Examiner is improper under the auspices of Section 103 and the caselaw defining obviousness. In order for a reference to render obvious a given invention, the features found in the application claims must be taught by the reference or they must be inherent in the reference. We

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respectfully urge that neither is the case in the instant situation.

Thakur discloses a process in which no HF-dip is required prior to a HSG process. Col. 2, lines 51 - 53. There is no disclosure in Thakur that addresses the spaces between grains and a continuous layer surrounding the grains.

In col. 3, lines 37 - 39, Thakur discloses the following process parameters for the HSG-process:

- temperature 500°C to 600°C;
- pressure between 50 mTorr to 50 Torr - that is, a range of almost three powers;
- no information about the process time;
- no information about the dilution of silane.

In a vast majority of parameter ranges within the expansive range of Thakur, there will result a continuous layer between the grains, with a concomitant decrease in the formation of additional surface area. The continuous layer is formed, for instance, if the process time is too long. Compare the original description of the application, page 10, lines 12 - 18, for a process time of 19 minutes and 10 seconds, and page 10, last paragraph, for a process time of 12 minutes and 40

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seconds. Only shorter process times do not result in such a continuous layer, see Fig. 1.

The same is true for improper temperature and dilution, compare page 12, last paragraph, to page 14, line 17. In line with this, Fig. 4, right-hand bar (590°C), shows a resultant coalescence. Furthermore, the formation of the continuous layer depends on the material of the ground layer. See, for example, page 15, second paragraph, where at the end of the paragraph, a continuous layer is mentioned which should be avoided.

The instant application provides a detailed teaching how it is possible to prevent the formation of a continuous layer surrounding the grains how the necessary parameter values can be found that prevent the formation of the continuous layer.

In contrast, the reference Thakur is entirely silent with regard to the specifics concerning the spaces between the grains and the formation of a continuous layer between the grains in most of the wide parameter ranges proposed in the reference. Thakur, therefore, does not teach anything, either explicitly or inherently, about a clear spacing between

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lateral surfaces of mutually adjacent grains and about the prevention of a continuous layer surrounding the grains. This is confirmed by the sole figure in Thakur which shows only coalescent grains, i.e., grains which contact each other and have no clear spaces between adjacent grains and a continuous layer surrounding the grains.

The reference Thakur, however, does not only lack a specific teaching that would render obvious the claimed invention, he also lacks any implicit teaching towards the invention. The Examiner is respectfully urged to consider the following guidelines concerning the use of allegedly implicit teaching in rejections:

EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted)

MPEP § 2112 (8th ed., 1st rev.). That is, a limitation recited in a claim that is not expressly or implicitly disclosed in a

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prior art reference is inherently disclosed therein if, and only if, the "missing" limitation is necessarily present in the prior art, and that it would be so recognized by persons of ordinary skill. The principles of inherency require that the inherency be absolute, and not probabilistic. As outlined above, there is no disclosure or suggestion in Thakur that his process would **absolutely necessarily** lead to the claimed invention.

Furthermore, according to a sub-heading in MPEP § 2112, the "EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY", i.e. the Examiner has the burden of proof (by a preponderance of the evidence) to show that Thakur **necessarily** discloses or suggests purposefully the invention. The Examiner should not simply be the devil's advocate postulating certain results or processes that may or may not result from the reference or be present in the applied prior art and leave it up to applicants to show or prove the contrary.

**2112 Requirements of Rejection Based
on Inherency; Burden of Proof**

The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "

MPEP § 2112 (8th edition) states "[t]he express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103."

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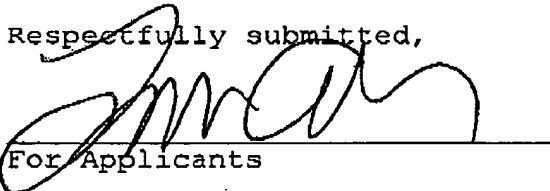
As discussed in MPEP § 2112, an element of a claim that is not expressly or implicitly disclosed in a prior art reference is inherently disclosed therein if, and only if, the "missing" element is necessarily present in the prior art. The principles of inherency require that the inherency be absolute, and not probabilistic. This, of course, is just the problem with the Examiner's rejection. The rejection is based on a probabilistic assumption of inherency or necessary result of Thakur's teaching.

In view of the foregoing, reconsideration and allowance of claims 12-23 are solicited.

If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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For Applicants

WHS:tk

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